CLAIMS

1. Process to preserve natural flowers, characterized by the following steps:

a) Selecting and cutting (1) the flowers, immersing the stems in water, and then separating the each flower from its stem;

b) Assembling the supporting devices and grids (2), comprising of placing flowers in the grids (7), assembling the grids on the central axle (9) of the supporting device (8), one on top of the previous leaving enough distance in between to prevent the flowers from crushing, such distance will be dependant on the height required for each type of flower to be processed;

c) A First dehydrating step (3a), wherein the supporting device (8) once completely filled with flowers, is placed into a reactor (14), filling the reactor with a mixture (16), passed from a feeder tank, of any solvent miscible in water and water with solvent contents no less than 70% until the flowers are completely immersed in the solvent, maintaining it at a temperature between around room temperature, and 100°C, during at least 30 min., then extracting the solvent from the reactor (14) ;

d) A second dehydration (3b) step, wherein a mixture of any solvent miscible in water with alcohol contents no less than 80% at a temperature between room and 100°C, is poured into reactor (14) until solvent has completely covered the flowers during at least 30 min, then the solvent is extracted from reactor (14);

e) A third dehydration (3c) step, wherein a mixture of any solvent miscible in water with alcohol contents no less than 90% at a temperature between around room and 100°C, is poured into the reactor (14) until said solvent has completely covered the flowers during at least 30 min, then the solvent is extracted from reactor (14);

f) Optionally, the third dehydration (3c) step can be repeated progressively increasing the solvent content in the mixture;

g) An infiltration step (4) wherein flowers are immersed into a bath comprising a blend of colorants, a solvent of the same characteristics as those used in the dehydration steps, a polymer soluble in said colorants and solvent, and optionally, other substances aiding to give the desired color;

h) An evaporation (5) step, wherein the mixture of the former step is drawn out and the solvent is evaporated under vacuum or applying temperature.

2. The process of claim 1, wherein in the step a) the selected flowers are in the desired opening point for obtaining the final product.

3. The process according to any of the above claims, wherein in step a) the stems of the flowers are immersed into water during around 6 to around 72 h.

4. The process according to any of the preceding claims, wherein in step a) the stems of the flowers are cut at a distance between 1 cm and 2 cm for medium size flowers, and between 10 cm to 15 cm for large size flowers.

5. The process of Claim 1, wherein in the step b) the flowers are stuck in sharp tips (12) of the spirals (11) of the grids (12) until completing its total capacity.

6. The process of Claim 5, wherein the flowers are stuck in said sharp tips (12) of the spirals (11) of the grids (12) until completing its total capacity.

7. The process of Claim 1 wherein in the step b) tubular separators (13) are placed between the grids (7).

8. The process of Claim 1 wherein in the step c) the solvent temperature is around 80°C.

9. The process of Claim 1 wherein in the step d) the solvent temperature is around 65°C.

10. The process of Claim 1 wherein in the step e) the solvent temperature is around 65°C.

11. The process of Claim 1. wherein in the step f) the solvent temperature is around 65°C.

12. The process of Claim 1, where in steps c), d), e) and f) the water-miscible solvent is an alcohol.

13. The process of Claim 1, wherein said alcohol is ethanol.

14. Process of Claim 1, wherein in step g) the used mixture has a percentage of polymers between 20 and 55% and a percentage of solvent between 45 and 80%.

15. The process of any of Claims 1 or 14, wherein in step g) the polymer is polyethylene glycol.

16. The process of Claim 15, wherein the molecular weight of said polyethylene glycol is 400.

17. The process of Claim 1, wherein in step c) the passage of mixture (16) of ethanol and water from said feeder tank (15) is carried out by introducing pressurized air into the feeder tank (15) and opening the valves that communicate said tank with said reactor (14).

18. The process of Claim 1 wherein in steps c), d), e) and f), after the solvent extraction, the solvent is recovered by traditional methods, such as distillation.

19. The process of Claim 1, wherein in steps c), d), e), and f), the time of residence of the flowers in the mixture will vary according to temperature, and temperature is dependent on the characteristics of the flowers to be processed, which may vary between room temperature and 100°C.

20. The process of Claim 1, wherein step g) may last from 12 to 72 h at room temperature.

21. The process of Claim 1 wherein step g) may last from 2 to 12 h when operating at a temperature up to 100°C.

22. The process according to any of the preceding claims, wherein stainless steel cylindrical reactors (14) are used under pressures up to 138 kPa, or under vacuum up to 77 kPa and temperatures up to 200°C.

23. The process according to any of the preceding Claims, where the supporting device (8) is made up by circular grids (7), the base of which is formed by channels (10), allowing drainage of fluids outside the grids (7), on such metal channels (10) frustoconical stainless steel spirals (11)

have been welded in which the bottom base wire has been perpendicularly bent and ends in a sharpen tip (12) wherein the flower stem is stuck.

24. The process of Claim 23, wherein said grids (7) are assembled on the central axle (9) of the supporting device (8), one on top of the previous, with tubular separators (13) in between, at a distance enough to avoid crushing the flowers and which size is dependant on the height required for each type of flower to be processed.